

Millikelvin Thermometers

MKT Series



Efficiency Meets Precision

Discover the versatility of MKT 10 and MKT 50, your superior partners for precise temperature measurement and calibration. Whether used in laboratories, production facilities, or in the field, these instruments are designed to meet the requirements of modern calibration, maintenance, optimization, and repair tasks.

Unbox the lightweight 500 g MKT 10 instrument and get precise 10 mK measurements within one minute

MKT 50 is the only thermometer with <1 mK precision in its price range

Portable, accurate temperature readings from -260 °C to +962 °C in just one second

Clear displays and glove-friendly buttons ensure easy operation

Full three-year warranty, supported by more than 86 service stations worldwide, with optional factory calibration and certification according to ISO 17025, DAkkS, or UKAS



Calibration certifications

The MKT instruments are designed to facilitate a wide range of calibration and maintenance tasks, ensuring your equipment adheres to modern accuracy standards. Combine with various sheaths for liquid bath systems and dry block calibrators.



Research and development

Enhance your analytical efficiency with rapid sampling rates, dual-channel measurement capabilities, and the PC logging feature. These high-precision thermometers make it easy to identify optimization effects such as energy loss or condensation.



Troubleshooting in challenging environments

Benefit from the compact MKT 10 in confined spaces and capture temperature differences with exceptional accuracy using MKT 50. Their precision accelerates troubleshooting, significantly reducing production downtime by facilitating quicker repairs.



Calibrating your measuring device

The natural drift of resistance sensors, thermocouples, and temperature controllers necessitates regular calibrations. The MKT series ensures that your instruments remain within the necessary tolerances, guaranteeing optimal performance and reliability.



Find the perfect operating point in your production

Precisely measuring temperature differences is crucial for evaluating the performance of heat exchangers, internal combustion engines, ovens, turbines, and steam systems, as well as identifying energy-saving opportunities and optimizing cooling systems.

MKT 10

Buy online
shop.anton-paar.com

Seamless Path to Precise Measurement

MKT 10 offers portability with one included flexible sensor in an easy-to-use case. Boasting an accuracy of less than 10 mK, it's the perfect choice for the chemical, pharmaceutical, and biotechnology industries, facilitating at-line and on-site measurements, including liquid-bath thermostat calibration.

Fast

- Results in just one second
- Quick setup for measurement within one minute of unpacking

Portable

- Lightweight and ergonomic form at only 500 g
- Includes convenient carrying case for simple transportation and one platinum resistance thermometer (PRT)

Easy handling

- Buttons designed for smart use with gloves
- Large and easy-to-read display for clear visibility
- Sensor parameters entered into MKT 10 according to DIN EN 60751
- Flexible power supply and communication

Battery-operated

- Power over Ethernet (PoE): Ecologically friendly power supply for minimum battery use



MKT 50

Buy online
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Outstanding Price-Performance Ratio

Experience unparalleled precision with MKT 50, which delivers measurements with an accuracy of less than 1 mK in any location thanks to its battery operation. Such performance makes this high-precision thermometer the best choice for laboratory, industrial, and temperature calibration measurements.

Save both time and money

- Intuitive user interface
- High sampling rates for quicker measurements
- Connect up to 16 PRT 100

Choose your certificates

- PRT 100 platinum resistance thermometers available with ISO 17025, factory, DAkkS, UKAS, ITS-90, DIN EN 60751, or ASTM E1137 certification
- 30 sets of calibration data for PRTs can be stored

Supported functions

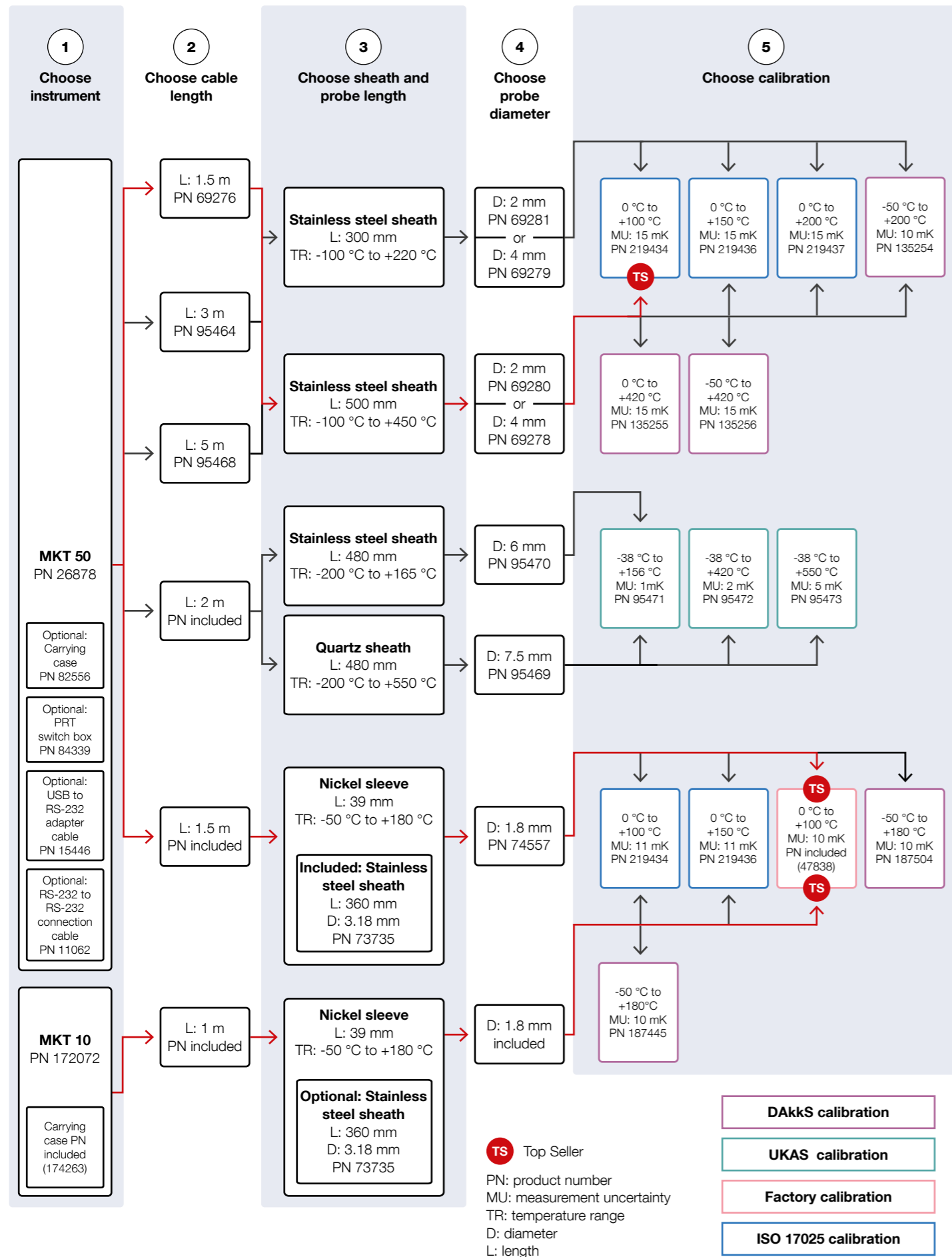
- Measurement of temperature and resistance
- Display of average and standard deviation

Connect to your network

- Data transfer via RS-232, USB, or Ethernet (XML or HTML file)
- Laboratory Information Management System (LIMS)



Your Perfect Configuration



| | MKT 10 | MKT 50 |
|--|--|--|
| Measuring range | | |
| Temperature | -50 °C to +180 °C (-58 °F to 356 °F) | -260 °C to +962 °C (-436 °F to +1,764 °F) |
| Resistance | 80 Ω to 175 Ω | 0 Ω to 440 Ω |
| Resolution | | |
| Temperature | 1 mK | 0.1 mK (Pt 100) |
| Resistance | 0.4 mΩ | 40 μΩ |
| Measurement uncertainty¹ | | |
| Temperature | < 10 mK | < 1 mK (Pt 100) |
| Resistance | < 4 mΩ | < 400 μΩ |
| General information | | |
| Measuring sensor | Pt 100 (EN 60751) | Pt 100 or Pt 25.5 (EN 60751 or ITS-90) |
| Measuring current | 1 mA _{DC} | 0.41 mA _{rms} |
| Internal reference resistor | 400 Ω (Vishay Precision Group, VHP 101) | 400 Ω (Vishay Precision Group, VHP 101) |
| Number of sensor inputs | 1 | 2 |
| Sensor connection | 4-wire, soldered | 4-wire (LEMO 1S304) |
| Measuring time | 1 second (for one channel) | 1.44 seconds (for both channels) |
| Data outputs | LAN (PoE, 10 Mbit) | RS-232D (optional USB ²) LAN (Ethernet, 10 Mbit) |
| Ambient operating temperature | 0 °C to 35 °C (20 °C to 25 °C recommended for highest accuracy) | 0 °C to 35 °C (20 °C to 25 °C recommended for highest accuracy) |
| Power supply | 4× AA batteries or Power over Ethernet (PoE) | Power adapter 7.5 V or 2× AA batteries |
| Dimensions (L × W × H) | 200 mm × 100 mm × 35 mm (7.9 in × 3.9 in × 1.4 in) | 240 mm × 190 mm × 110 mm (9.5 in × 7.5 in × 4.3 in) |
| Weight | Approx. 500 g (1.1 lbs) | Approx. 2 kg (4.4 lbs) |

¹ Refers to the calibration of the reference resistor without contribution of the sensor (confidence level: 95 %; number of measurement values: 50; reference temperature: 23 °C)
² With USB to RS-232 adapter

**Reliable.
Compliant.
Qualified.**

Our well-trained and certified technicians are ready to keep your instrument running smoothly.



